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ABSTRACT

This chapter of "Principles of School Business Management" introduces the concept of cash management, or the process of managing an institution's moneys to ensure maximum cash availability and maximum yield on investments. Four activities are involved: (1) conversion of accounts receivable to cash receipts; (2) conversion of accounts payable to cash disbursements; (3) the clearing of the bank by cash disbursements; and (4) maximization of cash utilization. The chapter first discusses the major goals of cash management: availability, yield, and safety. Processes and policies that constitute the administrative framework of cash management are considered next. The chapter next turns to cash budgeting, the process that determines the timing of cash management activities. Formal and informal systems for handling the information required to control the cash management process are examined in the next section of the chapter. Cash collection, deposit, and disbursement procedures are covered next. The chapter then turns to the subject of borrowing, discussing types of borrowing, the concept of arbitrage, and factors affecting borrowing in local as opposed to major money markets. Investment is the chapter's next topic, including risk, liquidity, yield, types of securities, and investment strategies. The chapter concludes with a discussion of the effects of a bank's policies and practices on school district profitability. A 16-item bibliography is provided. (PGD)

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9
School District Financial Management and Banking

Frederick L. Dembowski and Robert D. Davey

The purpose of this chapter is to introduce the major aspects of school district cash management and banking programs and to discuss how effective cash management systems operate in public school districts. Cash management, an important part of school business management, is the process of managing the moneys of a school district to ensure maximum cash availability and maximum yield on investments. Cash management is concerned with the utilization of investments of revenue. Specifically, cash management is concerned with four activities: (1) the conversion of accounts receivable to cash receipts; (2) the conversion of accounts payable to cash disbursements; (3) the rate at which cash disbursements clear the bank; and (4) maximizing the utilization of cash.

It should be noted by the student of school business management that this chapter addresses cash management for school districts which are fiscally independent of other governmental agencies. In many states, e.g., Connecticut and Virginia, other governmental agencies control the cash management on a city or county basis depending on the local form of government. In several states the practice varies based on classification schemes of school districts. Generally, in fiscally dependent school districts, the school business administrator presents claims or warrants to the other governmental agency for payment. The town or county manages the investments along similar lines as discussed in this chapter. The school district, however, is usually not involved in such activities.

Goals of Cash Management

There are a number of financial and nonfinancial goals of cash management. The three major financial goals of cash management are:

- Availability. To ensure cash availability (liquidity) to meet daily needs and to increase cash available for investment purposes.
- Yield. To earn the maximum return on cash invested.
- Safety. To protect the assets of the school district against loss.

These goals conflict to the extent that cash invested may not be readily available to meet current obligations, and that the interest rate available on investments increases with the risk. Since bills must be paid and risk should be minimized, the yield goal is necessarily secondary. However, the timing of cash inflow and outflow may be manipulated to favorably affect yield.

There are a number of additional financial goals which include the minimization of the costs of the cash management process in terms of monetary and labor costs. Generally, minimization of borrowing is necessary, unless such borrowing is advantageous to the district, such as through arbitrage as discussed later in this chapter.

The nonfinancial goals of a school district, while not lucrative, play an important fiscal role in the management of the school district. The nonfinancial goals of cash management include; promoting favorable business relations with vendors and banks, ensuring the orderly conduct of the financial aspects of a district's operations and building the trust and goodwill of the community.

A sound cash management program may be classified into eight elements. The elements are interrelated, and when properly coordinated, the attainment of the financial and nonfinancial cash management goals are enhanced. They may be divided further. The first element is the administrative framework. Such a framework is necessary to attain the financial goals of availability and yield. The next four elements are concerned with cash availability. The elements of the cash management program may be classified as: cash budgeting, cash information and control systems, collection and disbursement procedures for cash and borrowing. When successfully managed, these elements promote maximum availability of cash for a district's financial operations. The final three elements of a school district's cash management program are concerned with the goal of maximizing the potential yield. These elements are a working knowledge of financial institutions, a working knowledge of investment securities and a working knowledge of investment strategies. The full potential of a successful cash management program may be attained when all eight elements of a cash management program are established and skillfully utilized by the school business administrator.

Administrative Framework of Cash Management

The administrative framework encompasses the development of a policy as well as the legal and procedural requirements for developing an effective cash management program on a day-to-day basis. In order to achieve its cash management goals, a school district must develop the following:

- An interpretation by legal counsel on relevant federal and statutory guidelines that affect the operation of a cash management program.
- A written district policy approved by the board of education governing the conduct of the cash management program.
- A process for maintaining a cash investment consolidation account consisting of the cash balance of different funds and accounts.
- An on-going evaluation process that reviews progress throughout the fiscal year and provides appropriate performance data.

States have a number of restrictions on cash management activities of local school districts. Generally, statutory guidelines restrict cash management in three areas: 1) stipulating the dates and procedures to be followed in collecting or receiving taxes and fees; 2) restricting the types of securities and obligations for investments and borrowings; and 3) the types of financial institutions with which local districts may do business.

A school district should establish a written statement which defines the district policies relative to cash management. Generally, a board of education policy should include the following:

- The delegation of authority for the cash management activities to one official.
- A listing of the types of investment instruments in which the district may invest.
- The criteria for selecting the district's depository bank(s).
- The specification of the frequency and types of financial reports that must be submitted to the board.
- Local district limitations on cash management.

From the school business administrator's viewpoint, care should be exercised in writing a policy statement. While the detailed specification of policies, constraints and limitations is necessary, the specification of administrative and clerical procedures should be avoided and left to the discretion of the administrative personnel.

The consolidation of cash accounts often involves the "pooling" of cash resources of cash accounts of separate funds into one or a few bank accounts for investment purposes. These accounts often are called clearing, zero-based or consolidation accounts. Pursuant to state statutes, pooling need not be restricted to a single school district. Sound school business management dictates that districts investigate the establishment of pooling arrangements with other school districts as well as other governmental units. Some states have established statewide pooling arrangements. Other states have established mutual or trust funds for investment purposes. There are many advantages to pooling: it permits larger investments often resulting in higher interest rates; it tends to reduce fluctuations in the cash flow; it simplifies the investment process; and it reduces paperwork. Under a typical pooling operation, accounting procedures record each transaction.

The evaluation of cash management performance completes the administrative cycle. The school business administrator can determine the success of the program and establish a basis for developing future objectives. Many factors affect the net rate of return of a school district's investments. The external factors include current market conditions and the size and wealth of the school district. The internal factors include the mix of the investment instruments and the expertise of the school business administrator. The current rate of interest on investments has the greatest impact on the rate of return to cash management. A higher rate of interest generates a higher rate of return. However, interests rates vary greatly over time, and vary according to type and maturity of the investment.

The size and wealth of the school district also have a considerable effect on the rate of return to school district cash management. There are scale effects in the rates of return. Generally, the larger the school district, the larger the cash flow; hence, the larger the cash surplus available for investment. This problem is further exacerbated by banks paying a premium through higher bids for the use of large amounts of cash. Thus, a bank may bid only 9 percent for a certificate of deposit for 90 days on $100,000 while they may bid 9.5 percent for a 90 day certificate of deposit on $1 million. Thus, the school business administrator works toward maximizing these scale effects to the district's advantage.

Additionally, the assessed property value of a school district affects the results of cash management. The wealthier the school district, the greater the possibility for school district investment activity. School district revenues consist primarily of

local property tax and state aid receipts. The property tax receipts are based on the school district's assessed valuation. Obviously, the higher the expenditure, the higher the potential surplus cash balances available for investment. However, the effect of wealth on the state aid receipts is more direct. Due to fiscal equity considerations, poorer school districts receive a greater proportion of their total expenditures through state aid allocation formulas. Thus, the poorer the district, the more revenues it receives in state aid.

State aid payments vary from state to state as does the date when school districts receive their local property tax revenues. Based on state procedures of allocating state aid either on a semi-yearly, quarterly or monthly basis and the method of distributing local payments, districts will have different methodologies for investment of excess revenues.

The external factors also have an effect on the cash management program of the school district. Obviously, the use of different types of investment instruments will affect the rate of return. This is because the interest rate of each instrument or security varies with the degree of risk inherent in the instrument. For example, an investment in commercial paper carries greater risk than an investment in U.S. Treasury Bills because it is less likely that the U.S. Government will default on its loans. Generalities about interest rates, however, are difficult because the term structure of interest rates varies greatly over time.

Finally, the cash management rate of return will differ depending on the sophistication of the cash management techniques. While the development of a cash flow schedule for cash planning purposes will enable the school business administrator to develop a set of investments for the district, the use of advanced computerized techniques will most likely result in higher net interest earnings while observing the guidelines of liquidity and safety.

The final topic in the discussion of the administrative component of cash management is concerned with the establishment of a standard of performance. For a number of reasons, the rate of return typically used to judge cash management performance is not a valid measure. Since the conditions of cash management programs vary according to state statutes, the establishment of a desirable rate of return cannot be determined. Nevertheless, as a general rule, a rate of return of 1.5 percent of a district's total expenditures should be attainable by a typical school district.

Cash Budgeting

Cash budgeting involves the estimation of receipts and disbursements to determine cash requirements and to develop a cash management strategy. Cash budgeting answers the questions: 1) When are cash receipts expected? 2) How long will cash be available or when will it be spent? 3) Is borrowing required? 4) Are there opportunities for investment?

Cash budgeting differs from the traditional revenue and expenditure budgeting process because it is primarily concerned with the timing of the receipts and disbursements of the school district; it is not concerned with the paying of bills, but the investment of moneys. The traditional budgeting process is concerned with the amounts and sources of revenues, as well as the determination of anticipated expenditures. This budgeting process usually precedes the cash budgeting process.

While the traditional revenue and expenditure budgeting process culminates with a budget document, cash budgeting is a continual process with periodic updates.

Cash budgeting is important to an effective cash management program because detailed knowledge of the timing and amounts of cash receipts and disbursements allows the school business administrator to utilize an informed approach in designing an investment and borrowing strategy. Cash budgeting is also important in gathering the necessary information to develop financial position statements needed to borrow funds, especially borrowings based on future assets.

An important tool in cash budgeting is the cash flow schedule. A cash flow schedule may be as simple as a table which lists the total expected receipts, disbursements and net balances by month (see Table 9:1) or as detailed as a listing of receipts and disbursements by fund and source on a weekly or even daily basis (see Table 9:2). In constructing a cash flow schedule, a time frame must be selected. Additionally, the school business administrator develops a cash flow schedule for the fiscal year. By including all major receipts and disbursements for the entire year, this annual schedule will indicate periods of major borrowing and investment requirements. Once an annual schedule has been developed, cash flow schedules for smaller periods (i.e., biannual, annual, monthly, biweekly or weekly) may be developed. In general, the shorter the time horizon, the more time consuming and costly the cash budgeting process. Thus, the school business administrator must weigh the costs and benefits to the district of a detailed cash budgeting process.

A second decision essential to cash budgeting is the level of specification in developing the cash flow schedule. The school business administrator must decide on the level of aggregation, i.e., moneys available for investment, in specifying the cash receipts and disbursements and the time interval for reporting.

Illustrated in Table 9:1 is a cash flow schedule in which the school business administrator has made the following decisions: 1) the annual cash flow schedule represents a fiscal year with the data reported by monthly intervals; and 2) only total monthly receipts and disbursements are reported with no specific breakdown of the data.

In contrast, Table 9:2 reflects a three-month cash flow chart with receipts and disbursements grouped into major categories reported on the day of anticipated receipt or disbursements. Thus, the school business administrator is able to make more precise estimates of the cash needs of the district. There are a number of microcomputer programs available that perform these calculations, and the electronic spreadsheet software programs may be used to do a wide range of the cash management functions described in this chapter.

In order to develop a cash flow schedule, the timing and amounts of the cash receipts and disbursements of the district must be anticipated. Since historical cash flow information is invaluable for this purpose, accurate records of the dates and amounts of major receipts and disbursements of the district must be kept.

As discussed, school districts receive the bulk of their revenues through local property taxes and state aid payments. These payments result in substantial amounts of cash flowing into the school district's accounts at certain times. The timing and amounts of state aid payments vary from state to state. The timing and amounts of these receipts can be readily determined in advance with a high degree of certainty, thus enabling the school business administrator to develop cash flow schedules.

TABLE 9:1 Cash Flow Pattern Of A Sample District

Period	0	1	2	3	4	5	6	7	8	9	10	11	12
Month	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Dec. 31
Inflow	400	250	400	150	100	50	50	50	150	400	400	50	0
Outflow	200	200	200	200	200	400	100	100	200	200	200	300	0
Netflow	250*	+ 50	= 200	− 50	− 100	− 350	− 50	− 50	− 50	+ 200	= 200	− 250	0

Notes: Revenues are received by the district on the first day of the month.
Expenditures occur on the first dya of the month.
*Beginning cash balance of the district on the first day of the year is $50,000.

In addition to revenues, expenditures may also be anticipated. School district expenditures consist primarily of salary and fringe benefit expenses. The typical school district budget allots more than seventy-five percent of the expenditures for this purpose. Generally, these expenditures may be anticipated very accurately, since spending patterns of most school districts is quite stable. For example, debt

TABLE 9:2 Sample Cash Flow Chart for the period July 1 to October 1

Date	Explanation	Estimated Expenditures	Estimated Revenues	Running Balance
July 1	Opening cash balance (not fund balance)	$	$	$ 247,000
14	Payroll	37,000		210,000
28	Payroll	40,000		170,000
31	Bills	30,000		140,000
Aug. 1	Debt, Principal & Interest	63,000		77,000
11	Payroll	37,000		40,000
15	Bills	40,000		0
25	Tax Anticipation Note		400,000	400,000
25	Payroll	40,000		360,000
31	Bills	50,000		310,000
Sept. 1	Dept, Principal & Interest	63,000		247,000
1	Payroll	200,000		47,000
10	Bills	40,000		7,000
15	State Aid		350,000	357,000
15	Payroll	200,000		157,000
20	Bills	60,000		97,000
29	Property Tax		1,400,000	1,497,000
29	Pay TAN	400,000		1,097,000

service and utility payments may also be projected through degree day calculations and by reviewing debt service amortization schedules.

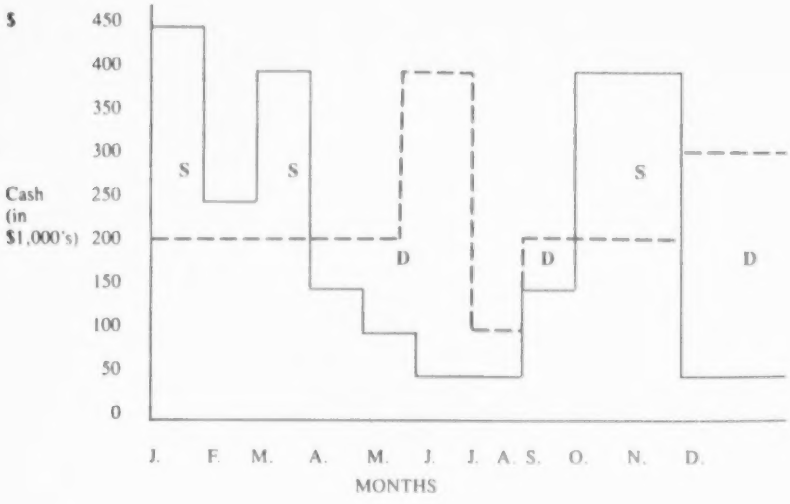
Figure 9:1 presents a simplified revenue and expenditure pattern of the hypothetical school district cash flow listed in Table 9:1. In this example, October and January revenues are large because of property tax receipts, while November and March receipts reflect state aid payments. The expenditure for most months is stable at $200,000 per month, with a high in June and lows during the summer months. Because of differences in the timing and amounts of revenues and expenditures, the school district experiences periods of surplus revenues over expenditures. January through March are periods of surplus cash. From April through October, however, the school district has more expenditures than revenues. The primary task of the school business administrator is to determine what borrowing and investment decisions should be made. If investments or borrowing is necessary, the issues of timing, amount and maturity need to be addressed.

The school business administrator should approach the planning task by first determining the *net cash flow.* The net cash flow is determined by subtracting the monthly expenditures from the revenues. A positive net cash flow indicates a cash surplus. A negative net cash flow indicates a cash deficit.

Table 9:1 presents an example of the monthly cash flows in tabular form. The month of January has a net $250,000 cash surplus. This cash would be invested in

interest bearing securities, e.g., a certificate of deposit. Since the month of April has a cash deficit of $50,000, an investment of $50,000 should be made from January to April. Another $100,000 would be invested from January to May to cover that deficit, with the remaining $50,000 surplus from January being invested until June. Because revenues equal expenditures in this example, this process will be followed until July when all surplus cash is invested to mature during the months of cash deficit situations. Despite all revenue being allocated, the school district would need $50,000 in July to meet expenses. This deficit situation continues until October when the property tax revenues arrive. By that time, the district will have accumulated a deficit of $150,000. To meet this deficit the school district must borrow $150,000 in anticipation of future revenues, e.g., a tax anticipation note. In October, sufficient revenues will allow for the repayment of the tax anticipation note, as well as to allow for the investment of an additional $50,000. Thus the investment process starts again.

This cash budgeting process begins with the development of a cash flow schedule. The cash flow schedule is assembled from the data provided by the accounting records and the budget from the previous fiscal year. Once the cash flow schedule is developed, the school business administrator may make decisions as to when, if any, investments and borrowings need to be made during the fiscal year. The actual process of making these investing and borrowing decisions will be discussed later in this chapter.



Where:

S - indicates a cash surplus

D - indicates a cash deficit

----------expenditures

_____revenues

Figure 9:1
Cash Budget and Cash Flow Pattern of a Sample District

Cash Information and Controls

An effective cash information and control system is required to process the information to help the school business administrator meet the program objectives. The information required to control the cash management process includes data on the cash balances in the various depository accounts of the district, as well as the anticipated current revenues and expenditures. A good cash information and control system includes three types of records: 1) those that record financial events, i.e., a record of investments made; 2) those that assist in making investment decisions, i.e., the current cash balance by account; and 3) those that permanently account for cash by fund.

Cash information and control systems typically consist of a formal and informal system. The formal system consists of accounting processes that systematically record the appropriate data. A cash accounting system accounts for the daily receipts and disbursements and provides cash balances by fund and account as well as ther daily average cash balances. A cash budget reporting system should be implemented to provide a budgeted versus actual record of receipts and disbursements. This system provides information to update the cash flow schedule and to evaluate the school business administrator's forecasting abilities.

An investment status and earnings system is useful in providing a summary performance record of cash management activities. Three key sets of information on investment transactions recorded by this system are the purchase (date, amount and rate), the sale (date and amount) and the maturity and interest. A similar record system, the earned interest apportionment system, is required to record the amount to be redistributed to the accounts and funds which contributed cash for the principal of the investment.

A reconciliation system is required to provide the data to undertake a monthly reconciliation between the balance in the district accounting records and the actual cash balances in the bank accounts and other assets of the school district. The reconciliation usually follows the following basic format:

Ending Cash Balance = Cash in Treasury + Investment Principal + Cash in Banks - Outstanding Checks - Deposits Not Yet Recorded.

Finally, a performance reporting system is designed to provide the information required to assess how well the district cash management system is attaining the three objectives of liquidity, safety, and yield. Performance reporting warrants special attention to procedure reports for those instances when an evaluation is required such as when estimating interest received during the budgeting process.

A well administered cash information and control system also has an informal system consisting of sound working relationships with responsible officers in the various departments of the school district. The main function of this informal system is to provide information on anticipated cash flows of which the school business administrator may be unaware. In addition it should generate information concerning current market conditions, vendor relations and the like.

Cash Collection and Disbursement Procedures

Cash collection, deposit and disbursement procedures are important factors in assuring the maximum availability of funds to meet cash needs for payment of bills and for the investment of funds. The development of procedures to bring revenue into the district accounts as soon as possible and keep those dollars as long as possible can mean a significant increase in earned investment dollars. To ensure that these processes will contribute to the achievement of a district's cash management goals, a school district needs:

1. Revenue collection policies and procedures for each major source of revenue.
2. Special deposit procedures to handle major revenue processing problems such as tax collections.
3. Disbursement policies and procedures for each category of expenditure and vendor.

Deposit Procedures

Deposit procedures affect the rate at which money already on its way to the school district is deposited into a bank account. Pursuant to state statutes, most school districts collect the state aid checks via wire transfers or courier instead of having them mailed. The significance of this practice is underscored by its financial impact. For example, within a three day period a $2 million state aid check were in the mail a district could have earned $2,466 less the cost of transfer by investing the funds at fifteen percent interest.

There are a number of special arrangements that may be made to speed up deposits. Pursuant to state statutes many banks accept direct deposits under a lock box system. A lock box service accelerates the district's cash flow from tax receipts by processing payments received, usually on a daily basis. Mail payments are often picked up at the post office box reducing "mail float" and delivered directly to the bank's processing center. Often, the main bank will continue to process that day's payments even after its branch system has closed for the day.

Most states have state-wide banking systems allowing for the depositing of funds in branch offices of the depository bank which accelerates the collection and deposit process. For example, a school district located far from the state capital may direct the state education department to tender their state aid check to the branch office of their bank in the state capital, thereby, avoiding the "mail float."

As mentioned, the wire transfer is another widely used method of transferring revenues into district accounts. Money transfer requests can be received from a number of sources. Because of risks associated with the processing of wires, items must be tightly controlled. All requests are first routed to a pre-processing center. The center is responsible for preparing all payments for transmission and forwarding them to the processing area. The steps required to prepare the transfer include:

1) Checking all requests for authenticity.
2) Identifying credit and debit parties.
3) Deciding on the method of payment.
3) Checking for availability of sufficient funds.
5) Indexing and obtaining authorized approval.

The payments processing area is responsible for the actual transfer of funds. Each transfer is on the Automated Funds Transfer System (AFTS) and verified by a second series of checks. Member banks of the Federal Reserve System are able to utilize their own wire transfer system, the Federal Interface System (FIS), to send a Federal Funds Transfer. Transfers are transmitted through FIS to the money transfer system of the bank involved. The deadline for Federal Fund Transfers is 4:30 P.M. for all transfers. Thus the arrangements for the wire transfer must be made earlier in the day with the sending bank. Most banks also have time deadlines, so the school business administrator must become familiar with these.

Disbursement Procedures

There are also a number of methods which may be used by school districts to manage the disbursement process in a manner favorable to the district's cash management program. From the cash management standpoint, disbursements should be timed so that they remove cash from the district's accounts at the last possible moment. However, this incentive must be tempered by the need to pay bills in a timely fashion. Unhappy vendors may raise prices, perform poorly or require excessive administrative time in responding to complaints.

In nearly every state only a board of education may authorize actual payment of bills. Normally, boards of education examine warrants for payment once a month to ensure public accountability. This process may be utilized for sound cash management. An effective system schedules specific payroll and vendor payment days each month. An accounts payable system which allows the payables to "age" before payment will improve disbursement control. As invoices are received, they are analyzed and a payment date affixed prior to board of education approval. After the board of education has approved all payments, they are paid on the pre-assigned payment date. Some factors that affect the payment date are: discounts available, the past history of a vendor requiring immediate payment and the method of payment (mail or hand delivery). Discounts may result in significant savings.

Depending on state statutes, warrants may be used to improve cash availability in certain instances. A *warrant* is a promise to pay a sum of money at some future date on presentation to the issuer. Under a warrant system, funds need not be available until the date the warrant is presented back to the issuer for payment. The warrant system is used in particular in fiscally dependent school districts where the warrants are presented to the controlling governmental authority for payment. One disadvantage of the warrant system is that banks usually charge higher handling charges for warrants than checks.

A final issue of importance in discussing disbursements is the direct deposit of payrolls. In direct payroll deposit, the district enjoys favorable employee relations because it is easier for the employees to access their money. Banks like direct payroll deposit because it brings them new customers and increases their cash balances. However, from a cash management standpoint, direct deposit of payroll is unfavorable to the school district because it accelerates the flow of cash from the district accounts, thus shortening the time available to the district for investing the cash.

The following example illustrates the negative financial impact direct payroll deposits can have on a district. A school district pays its employees on Friday afternoon every two weeks for a total payroll of $200,000. Under a direct payroll

deposit system, all $200,000 leaves the district's accounts on Friday afternoon. However, an analysis of the bank statements of the payroll account of the school district for the prior fiscal year reveals the cash flow pattern as reflected in Table 9:3. On the paydays, only 25.5 percent of the paychecks were cashed and cleared the bank, leaving 74.5 percent of the payroll in the checking account over the weekend. On Monday night, another 31 percent of the payroll checks cleared the bank and so on. If the school district had a policy to leave only 30 percent of the payroll in the checking account to cover Friday's checks, it could have placed the remaining $149,000 in a three-day investment with the bank. Such an investment typically earns a relatively high rate of interest. In this case, assuming a 15 percent interest rate, the school district, could have earned $186.15 every two weeks or over $4,000 during the fiscal year. Thus, a direct payroll deposit system would need careful consideration before being established.

Table 9:3 Payroll Disbursement Pattern For A Sample School District

Day	Checks Cashed	Percent Cashed
Friday	$ 51,000	25.5
Monday	62,000	31.0
Tuesday	33,000	16.5
Wednesday	8,000	4.0
Thursday	5,000	2.5
Friday	5,000	2.5
Monday	20,000	10.0
Tuesday	9,000	4.5
Wednesday	5,000	2.5
Thursday	2,000	1.0
Total	$200,000	100%

Borrowing

There are times when a school district may require cash in excess of anticipated revenues. At such times, the district needs to borrow money. There are a variety of ways to borrow. Long-term borrowing provides the school district with a large sum of money, usually for a specific purpose, such as the construction of a building which is paid off over a specified period of years. Long-term borrowing, and the ancillary topics of capital debt management, are covered in another chapter of this text. Short-term borrowing allows the district to meet current obligations for a period prior to the receipt of anticipated cash. Both types of borrowing are an integral part of a sound cash management system.

The purpose of short-term borrowing is to provide sufficient cash for the school district to meet its current obligations during an interim cash deficit. The cash is usually borrowed in anticipation of revenues expected in the near future. Short-term borrowing is avoided by many school districts, possibly because of stringent

statutory restrictions and because of the negative connotation that borrowing has traditionally held. However, short-term borrowing should be considered an important tool in the cash management program, as it offers opportunities for net interest earnings for the school district.

Although state statutes vary, there are generally five types of short-term borrowing available to school districts:

1) *Revenue Anticipation Notes (RAN).* Used for general purposes in anticipation of collected revenues other than property taxes (i.e., state aid).
2) *Tax Anticipation Notes (TAN).* Used for general purposes in anticipation of taxes or assessments levied.
3) *Bond Anticipation Notes (BAN).* Issued when bonds have been authorized and generally used only for the same object or purpose for which the proceeds of the bond may be expended.
4) *Budget Notes.* Used to provide revenues during the fiscal year for any unforeseeable public emergency. These notes are usually paid off with additional taxes collected in the following fiscal year.
5) *Capital Notes.* Used to finance all or part of the cost of any object or purpose for which serial or sinking fund bonds may be issued. Capital notes are usually issued for a specified period.

The use of short-term borrowing is usually restricted by statutory law. Most states have limitations on the pay back period, the amount and the reinvestment opportunities of borrowed funds. The pay back periods vary widely from state to state with the most common pay back periods being either before the end of the fiscal year in which funds were borrowed or six months. However, many states authorize longer pay back periods for specific short-term obligations. For example, Texas allows budget notes and contract obligation notes a pay back period of twenty-five years. Many states also limit the amount which may be borrowed on a short-term basis. Again, these restrictions vary from state to state and according to the particular obligation used. The Federal Government also has regulations governing short-term borrowings and arbitrage. Normally TANs and RANs limit the loan amount to 75 to 80 percent of the anticipated revenue. Some states allow 100 percent of the anticipated revenues to be borrowed, while others allow only 25 percent.

Arbitrage

The majority of states allow borrowed moneys to be reinvested until needed for current obligations. This practice offers school districts the opportunity to earn net interest over the cost of the borrowed cash through investment. States allow this because interest rates available to school districts on borrowed cash is usually substantially less than the rates available through investments. This differential in interest rates exists because cash loaned to school districts is tax exempt, and lending institutions can offer lower interest rates on loans to school districts because of this tax savings. The point spread or difference between the borrowing and investing rate offers school districts the opportunity to gain money by borrowing and then investing a portion of the proceeds. This practice is commonly referred to as "arbitrage."

Consider the following example of *arbitrage*. The school district whose cash flow is displayed in Table 9:1 will experience an anticipated cash deficit of $150,000 during the months of July, August and September. The school district realizes that it will have a sufficient revenue surplus ($200,000) flowing into the school district in October to pay back the TAN to cover this deficit. The school district is able to borrow the needed $150,000 through a local bank for 10 percent annual interest. The current rate of interest on investments is 15 percent annual interest. The school district has a number of options. The first option is to borrow the $150,000 on July 1, and pay it back on October 1. In this case, the school district would use $50,000 to cover the deficit in July and invest $50,000 for two months to cover the September deficit. It could pay back the TAN on October 1. Thus, the school district would earn $1,875 in interest on investments, but pay the bank $4,748.50 on the borrowed cash, with a net cost to the district of $4,873.50.

However, the school district has other options. Suppose that the school business administrator read the arbitrage regulations of the state carefully and discovered that the deficit cash can be legally borrowed at the beginning of the fiscal year in which the anticipated deficit will occur, and does not have to be paid back until the end of the fiscal year. Further, the law states that the school district may legally borrow one month's expenditure to the anticipated expenditure of the month immediately following the last month of the cash deficit period in addition to the anticipated deficit. (This hypothetical law is modeled after 1984 New York arbitrage regulations.)

Based on this law, the district's school business administrator who is anticipating a deficit of $150,000, determines that the average expenditure for the month following the last deficit period (October) was $200,000 and, therefore, decides to borrow $350,000 at the beginning of the fiscal year (January 1) at a rate of 10 percent. He then immediately invests $200,000 of the loan amount at 15 percent interest until December 31 since it was only needed as a reserve. In this example, the school district would earn $75,625 on investments and have to pay back $35,000 in December on the borrowed cash, for a total earning of $40,625.

School districts are not the only beneficiaries of the arbitrage process. Nevertheless, arbitrage is a good example of how certain cash management practices benefit other publics as well. For example, it can be assumed that as a result of arbitrage taxpayers pay less in taxes. Banks often favor the process because: 1) the interest paid on the investment is tax deductible as a cost of doing business; 2) the interest earned on the note borrowed by the school district is tax exempt, which may result in a much higher effective yield to the bank than the current annual rate; and 3) the note may be used by the bank as collateral for other investments of the school districts in the area. The conditions, however, under which banks favor arbitrage are dependent on current market conditions and the balance of the bank's portfolio between taxable and non-taxable securities.

It is no wonder that due to the tax exemptions and deductions offered banks, that the Federal Government and particularly the IRS have strickly monitored the arbitrage process, for it is the Federal Government which loses tax revenues in the end.

Local v. Major Money Markets

School districts may borrow for short-term deficits through the local market or through a major money market. In borrowing through the local market, the school district obtains a legal opinion from a local legal firm and markets its borrowing

securities through a local bank. When borrowing through the major money markets, securing appropriate legal counsel is critical. Legal firms which are recognized as experts in bonding are listed in the *Bond Buyers Directory.* The recognized legal opinion on a bond or note will facilitate the competitive sale of municipal securities, often resulting in a more favorable rate on the bond.

An important marketing tool of bonds is the issuing of a printed "Official Statement" providing full disclosure of operations and pertinent information. The official statement facilitates the marketing of securities to potential investors. Once written, a yearly update is relatively simple and inexpensive.

Banks buy these securities at a risk position. This means that the rate quoted on the security is what the bank projects it can market at a profit. The profit is the spread between the rate the municipality will pay and the rate of return a buyer is willing to accept when purchasing these tax exempt securities. This risk position of the bank is another reason for the use of the official statement.

Early notification to the bank that a school district is going to borrow in the near future allows the bank to promote the issue and establish a pre-sale list of buyers. The more successful the pre-sale effort, the less risk to the bank and the more aggressive the bank will be, resulting in a more favorable rate to the school district on its security.

Early notice to the bank on the timing of a school district's borrowing needs could result in the avoidance of an unfavorable marketing environment for the district's notes. For example, a school district in a rural area of a state may need to borrow $1.2 million for six months and decide in advance to offer these notes for sale on a given date. If the school district's financial adviser knew that the largest city in the state was intending to market $50 million for a municipal project on that same day, he or she might decide to market the district's notes one week earlier to obtain a more favorable rate and service. By being issued on the same day as the large city, the school district's notes would be placed in an unfavorable marketing position, since the banks would stand to make more on the larger issue.

Districts using local legal opinions to market their notes should understand the effects of these loans on a bank's investment portfolio. Municipal notes yield a substantially reduced rate of return to a bank because of their tax exempt status. The benefit of this type of security to a bank fluctuates constantly depending on the current structure of the bank's portfolio. Due to the nature of the market, notes with local legal opinions are more difficult to sell to buyers of tax free securities than the securities with legal opinions from the recognized bonding firms. Depending on the size and current portfolio status of the bank, these notes may or may not be desirable.

The school business administrator should contact the banker as soon as the borrowing needs of the school district are determined. This allows the bank time to obtain the necessary financial documentation required for credit analysis and approval to loan the moneys. Generally, the information needed for these purposes includes the current budget, the latest audit report and, for RANs and TANs, a cash flow schedule covering at least the term of the note. The information needed for the credit analysis includes the year-end fund balance of the operating fund, the appropriated fund balance in the current year's budget, revenue projections showing the source to be used for the repayment of the loan and the cash flow deficit used to justify the amount to be borrowed according to arbitrage regulations.

Negotiated sales are an alternative to the formal bidding process. The market rate for this paper is a gauge for the actual bid rate that may be substantially higher or lower because of the circumstances at the time of the sale. The school district's business and the depository balances in a bank offer school districts leverage in negotiating with lending agencies. Effective use of this leverage can yield substantially reduced rates on borrowing, often lower than can be obtained by going through the major money market or formal bidding process.

In summary, short-term borrowing may reflect sound school business management. It is a valuable cash management tool, and if used wisely, it can result in net interest earnings to school districts.

Investing

As with borrowing, the investing practices of school districts are strictly regulated by statutory law. The school business administrator has a compendium of the laws, legal opinions and comptroller opinions that regulate this process. Only within the scope of what is legally permitted for investing do the other considerations of risk, liquidity and yield apply.

Risk

The risk of financial loss must temper all school district investment practices. Even where legally permitted, high risk or speculative investments should be avoided because it is taxpayer money at risk. To reduce the risk of default or loss, many states require collateral on all school district investments. This *collateral* requirement varies from state to state. The Federal Deposit Insurance Corporation (FDIC) insures the first $100,000 of all deposits. However, this $100,000 insurance is for all the deposits of an entity, not $100,000 on each individual deposit or security. Banks bid lower on investments that require collateral because it costs the banks to maintain assets as collateral instead of using them for other more lucrative purposes.

In order to ensure that the district's investments are secured by collateral, the school business administrator would insist on receiving written documentation regarding the collateral securities. A prudent school business administrator will insist that the principal of any investment be secured at all times for the period of the investment at 100 percent of current market value in legal governmental obligations, and that these collateral securities are held in trust for the school district in the trust department of the depository bank or by a third party, such as another bank. Further, the school business administrator should receive from the third party a letter stating the types, dollar amount, date received and date due of these securities, as well as a statement regarding who holds title to these securities. In the event of a collapse of the bank which has the investment, these collateral securities may be immediately liquidated by the school district, thereby maintaining the integrity of the investment. The district may then file a claim for any interest due on the investment in the bankruptcy hearing. Some states, such as Kentucky and Mississippi, require more than 100 percent collateral on all investments.

Liquidity and Yield

Once the legality and risk of an investment are understood, the school business administrator would next consider liquidity and yield. Liquidity is the ability to quickly convert a security to cash without the loss of principal or accrued interest. School business administrators always include some highly liquid securities in the district's portfolio to be assured that all bills will be paid on time in the face of some unanticipated cash deficit.

The yield of the investment varies with the type of security. Competitive bids for comparable investments may indicate the different yields available in the securities market. For example, comparable certificates of deposit may be purchased at different banks at yields depending on the banks' need for cash. At least five other factors affect the yield of an investment. Generally, the yield is higher when:

1) The maturity date is further away.
2) The risk is greater.
3) The liquidity of the investment is less.
4) The investment is greater.
5) The investment does not require collateral.

A wise school business administrator is cautious when the basis point spread between the bids received is relatively large (i.e., 100 basis point or 1 percent annual percentage rate APR). While there are a number of legitimate reasons why the bidder may need the cash, such as meeting the Federal liquidity requirements or to balance the taxable versus non-taxable holdings in their portfolio, it is possible that the bidder needs the cash to stave off financial insolvency. Thus the higher bid may be designed to attract investors and to compensate investors for the additional risk of default in the transaction. Although it is very difficult to evaluate a financial institution's fiscal condition, a prudent school business administrator who is alert to signals such as high bids, should seek professional advice before making a decision. A number of firms offer analysis of the financial viability of securities firms and banks.

Each security has a defined method of calculating yield. The interest earned is either calculated on a 360 or 365 day basis, causing slight differences in actual interest earnings between bids on investments with the same maturity. For this reason, not only the interest rate, but also the net total interest earnings in dollars should be specified in a bid.

Types of Securities

There are many types of securities which school districts may use for investment purposes, and this list is continuing to increase. Many states limit the types of investment instruments school districts may use, and the use of each instrument may have unique restrictions. The specific regulations regarding the use of investment securities should be carefully explored and documented. Pursuant to state statutes, the more common investment instruments used by school districts are as follows:

Certificates of Deposit (CDs). A time deposit issued against funds deposited in a bank for a specified period of time, usually not less than 7 days nor more than one year. The minimum amount for a negotiable CD is typically $100,000. There are two types of CDs: a primary CD is purchased directly from the issuing bank, while

the secondary CD is a negotiable CD already issued and traded on the open market. CDs have good marketability in the secondary market.

Repurchase Agreements ("Repos"). An investment in which securities, usually U.S. Treasury Bills, are purchased under an agreement to resell at a later date. A repo offers maximum security to the investor, since the government securities are literally owned by the investor as collateral until repayment at maturity. Maturities are generally short (1 to 60 days) but can be written for longer periods. Under certain conditions, repos are an ideal high quality investment for very short periods of time.

A reverse repo can be purchased when the investor is in need of funds. Under this agreement, the bank will purchase government securities under the agreement to sell them back to the investor at a later date for an agreed amount of interest. This can provide investors with significant flexibility in managing their cash position.

Until recently, the legal ownership of the securities in a repo have been at issue when the financial institution in the transaction has filed for protection against creditors under Chapter 11 of the Bankruptcy Code. However, recent revisions have legally characterized the repurchase agreement as the sale and repurchase of securities; and in the event of bankruptcy, the investor may liquidate these securities immediately and may not be subject to the automatic stay provisions pending the outcome to the bankruptcy hearing. The prudent administrator would have these securities held in a bank's trust department or by a third party.

U.S. Securities. U.S. Treasury Bills and Treasury Notes and Bonds are the two basic types of governmental securities. Bills are government guaranteed securities with maturities of one year or less. Bills are available with a minimum investment of $10,000 and in $5,000 denominations. The marketability of Treasury Bills in the secondary market is excellent. Since Bills are sold on a discount basis, the investor pays less than par value for the securities and receives par value at maturity, the difference representing the interest income. Treasury Notes and Bonds are direct obligations of the U.S. Government which are often available in $1,000 denominations, with maturities ranging from one to thirty years. Treasury bonds and notes also have excellent marketability.

Federal Agency Securities. A number of Federal Agencies offer investment securities, with the six major obligations being: Banks for Cooperatives (COOPS), Federal Intermediate Credit Banks (FICB), Federal Land Banks (FLB), Federal Home Loan Banks (FHLB), Federal National Mortgage Association (FNMA) and Government National Mortgage Association (GNMA). Only GNMAs are backed by the full faith and credit of the U.S. Government. However, the other agencies have the implied backing of the government. Maturities vary depending on the issuing agency. Marketability is excellent, but not quite as good as with Treasury Bills. In addition to the agencies listed, there are also several lesser known agencies which also offer high quality and good marketability.

State and Municipal Obligations. State and municipal governments offer a wide variety of tax exempt securities to finance their operations. BANs, TANs and RANs are examples of short-term notes with maturities of less than one year. The security of these notes reflects the credit quality of the issuing entity. Repayment is made from anticipated revenues.

Negotiated Orders of Withdrawal. NOW accounts offer the liquidity of the depositor account with the check writing privileges and the interest earning capability of the savings account. Most banks currently offer NOW accounts.

Money Market Accounts. These accounts offer liquidity and a variable interest rate that reflects market conditions. The MMA can be used effectively for funds where liquidity is a necessary ingredient particularly during periods of rising interest rates. MMAs have a limited number of withdrawals allowed per month.

Securities purchased from different types of institutions require different procedures. Most of these procedural distinctions center on the purchase and sale of the security. Questions to be answered concerning each transaction include:

1) Have the terms and the principal, discount and accrued interest amounts been confirmed and recorded?
2) Is it clear as to the description of the security in question?
3) Has the method by which the funds are to be delivered been specified?
4) Has the location where the security will be held for safe keeping been specified?
5) Has the place where settlement will take place been specified?
6) What bank accounts will be credited or debited as a result of the transactions?
7) Has a letter from the third party holding the securities and/or collateral been received?

Answering these questions will minimize excessive administrative complications and the risk of failure to complete the transaction.

Investment Strategies

An investment strategy would govern the actions that are taken in the day to day cash management program of a district. The strategy centers on the cash management goals of safety, availability and yield discussed earlier. The three most important factors to consider when developing an investment strategy are:

Amount of money available to invest. The cash flow schedule combined with information on current outstanding investments determines the forecast of the amount of cash available for investment.

Money market conditions. An analysis of the historical and present money market conditions helps forecast the expected increase or decrease in the yield rates of various types of securities.

Mix of securities. The cash control and reporting systems provide information about the current mix of investments (what investments have been made for what periods of time) representing the investment portfolio at the beginning of the investment strategy.

One investment strategy was implicity applied in the determination of investment amounts and maturities in the cash budgeting section discussed earlier. In that discussion, the net flow of the sample school district (see table 9:1) was determined and investments selected based on a manual determination of cash availability and need in later periods. This method is the most basic procedure for investing. However, it should be noted that because of the differences in the term structures of the interest rates, substantial amounts of interest earnings could be lost using this method. For example, if the school business administrator represented by Table 9:1 were concerned only with the period from January to June, he would have no need to borrow because during this six-month period, there are a number of opportunities to invest surplus cash.

The key question for the school business administrator to answer is, *"What investments should be made in order to maximize interest earnings while making sure that all bills are paid?"* Unfortunately, this question is practically unanswerable if manual methods are used in calculations. However, even if the optimal solution cannot be reached by manual methods, the results obtained by using the basic method discussed can be improved.

For such an improvement the following strategy would be used. In the cash budgeting section of this chapter, a simplified investment pattern was discussed. However, a number of important pieces of information were not revealed in that discussion. This information is primarily concerned with the interest rates available on investments. In the previous section it was disclosed that interest rates vary according to the maturity of the investment security. Generally, the longer the investment, the higher the interest rate. In this example, the school business administrator might call the local banker for the current interest rates on investments and determine that an investment in a CD of one to two months duration would earn an annual interest rate of seven percent, a three- to four-month investment would earn nine percent annual interest and an investment of five to six months would earn eleven percent. (Note the point spreads are exaggerated for purposes of this example. Much smaller differences should be expected in reality.) In this case, assuming the goal is to maximize interest earnings, the longer investments are made, the more interest will be earned. With differing interest rates, the school business administrator would most likely make investments as illustrated in Table 9:4.

Table 9:4
Long Range Cash Flow Investments

1) NP13	=	$200,000 with interest	=	$9,167
2) NP24	=	$ 50,000 with interest	=	$1,500
3) NP33	=	$100,000 with interest	=	$2,250
4) NP32	=	$100,000 with interest	=	$1,166
5) NP31	=	$ 50,000 with interest	=	$291.50

Where:

NPtk	=	All investments
NP	=	Notes Purchased
t	=	Number of the month the investment is purchased
k	=	The number of months later the investment matures
NP13	=	Represents an investment made in the first month (January) maturing three months later in April
NP24	=	Represents an investment made in February maturing in June

As a general rule it is wise to make investments for longer periods of time to take advantage of the higher interest rates. Thus, the school district could have earned a total of $14,374.50 in interest earnings. However, even this interest is not the maximum the school district could have earned as determined by computer simulation. The determination of the optimal investments strategy is often a complex problem for most public school districts.

While the development of a cash flow chart and the long term strategy of borrowing and investing of funds for the fiscal year is a major component of a sound

financial management operation in a school district, of equal importance is the concept of *working capital management.* Working capital management is concerned with the day to day financial operations of the district. In this process, cash is usually found in either the checking accounts of the district, or in short-term interest bearing assets such as a savings account or repurchase agreement. Cash is transferred from the checking account to savings when not immediately needed. Thus, cash is treated as a stock of an inventory good. As such, cash may be manipulated by many of the same techniques that are used in inventory control. Many banks have computerized systems that can tell investors exactly how much cash is available for investment purposes, and the investment of the working capital of the district may be arranged on a daily basis using repurchase agreements and money market accounts.

Bank and School District Profitability

The methods of "profitability analysis" used by banks differ from bank to bank and change over time. A school business administrator should determine how his district depository bank conducts its analysis and how the district may use the bank's method to its advantage. School districts use banks for checking and savings accounts, as well as investment purposes. The bank incurs expenses in servicing these accounts. These expenses are primarily labor, computer and material costs of performing the various tasks required to service the accounts, such as check reconciliation, accepting deposits and check clearing. Banks are usually compensated for these expenses by requiring that a minimum or minimum average daily cash balance be maintained in a checking account and by charging an annual fee.

In order to set a fee and the compensating balance requirement, the bank performs a profitability analysis on the accounts of the school district. The expenses of servicing the school district's accounts for a period of time have to be determined. Once a bank estimates these charges or expenses of servicing the school district accounts, it then determines whether there is a net profitability for the bank by calculating the earnings allowance of the accounts. The earning allowance of the accounts accrues to the bank because the money sitting in the checking account may be partially invested by the bank in interest-earning assets.

The school district has several options when selecting a bank in order to ensure a cost effective banking relationship. Pursuant to state statutes, the school district can solicit bids or request proposals for banking services. Another alternative is to discuss the account analysis procedures with a number of banks before making a selection. However, the most important thing that a school business administrator should do is to ensure that the district's cash balances remain low by investing excess funds in interest-bearing assets.

There will always be excess cash in the checking account because of the "float." Float is a term used to describe the amount of cash in a checking account that remains after checks have been written but before these checks clear the account. In school districts, the float is typically large. A sound cash management procedure would be to leave sufficient cash in the checking account to cover the float plus the bank's compensating balance requirement. In this way, the district can invest the remainder of the cash balance in interest bearing assets, earning the highest rates of interest available.

To facilitate this type of cash management, the school district can take advantage of additional banking services. Most banks offer telephone transfers of cash between the checking and savings accounts, although this method of cash management has been made somewhat obsolete by the NOW accounts, money market accounts and computerized cash management systems. All large deposits of cash, such as state aid payments and tax receipts should be placed into interest bearing assets directly. For example, the daily interest earnings on $1 million in a 10.5 percent money market account is $288. Through the use of a telephone transfer system or computerized cash management system, the school district and not the bank, would have control over the interest-earning assets of the district.

Commercial Lines of Credit

A service offered by banks that is infrequently utilized by school districts is the commercial line of credit. Although often prohibited by law, the commercial line of credit is a viable financing alternative where the law permits it. Lines of credit offer overdraft protection thereby eliminating the need of leaving cash balances in the district's accounts as a margin of safety. Through the use of lines of credit, the bank lends the school district cash as needed to cover overdrafts. The loan would be at a specified rate of interest, payable when the overdraft is covered. Under this arrangement cash normally left in the checking account as protection against overdrafts would be invested in securities earning substantial interest revenues. Overdrafts are then paid from interest earnings on the more lucrative investments.

Summary

By necessity, school districts have become more sophisticated in their cash management and banking relations. Generally, the level of sophistication is enhanced by the use of computer programs specially designed to help the school business administrator with financial decisions. The school business administrator must pursue aggressive yet sound, conservative, fully insured investments. In the future, school-banking relationships will play an increasingly important role in the financial picture of school districts.

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